PHILOSOPHICAL MAGAZINE LETTERS, 1991, VOL. 63, NO. 6, 355–356

SUBJECT INDEX

Vol. 63

	PAGE
Ablation, laser-induced, of polymeric solids	289
Ag/As–S system, photodoping in	97
Al–Co–Cu, decagonal phases in	257
$Al_{65}Cu_{20}Co_{15}$, decagonal phase	335
Al–Cu–Co quasicrystal, stability of	211
Al–Cu–Fe, new commensurate phase in	49
Al–Ge, metastable, HOLZ transforms of	31
Al–Mn–Cr–Si, quasicrystals of	179
Al–Mn–Pd quasicrystals	87
Al_3Nb, phase stability of	345
Al_2O_3, sintered, microstructure of	7
Al–T_2 alloy, growth twinning in	197
Amorphous Fe–Zr, phase separation in	309
Amorphous Ge, pentagonal nucleus in	233
Amorphous Si, dispersive transport in	153
Amorphous Si:H, ambipolar diffusion length in	327
Amorphous Si:H, photoexcited carriers in	57
Bi–Mn, tetragonal, twin boundary regions in	127
Bipolarons in high T_c superconductors	295, 319
Bismuth-doped copper, imaging of	281
Boron-doped Ni_3Al, grain boundaries in	123
Climb rate of interstitial loops	133
Copper, alloying of into gold atom clusters	173
Copper doped with bismuth, imaging of	281
Co_3Ti, helical dislocations in	141
Decagonal phase of $Al_{65}Cu_{20}Co_{15}$	333
Decagonal phases in Al–Co–Cu	257
Diffusivity of point defects under pressure	1
Dislocation, novel, in YBaCuO	189
Dislocation structure of Ni_3Fe	117
Dislocations, helical, in Co_3Ti	141
Dislocations, misfit, in InGaAs/GaAs	23
Dislocations, superlattice, in Ti_3Al	65
Dislocations in an elastic medium	185
Dispersions of voids as sources of strength	159
Dissociation transition in Zr_3Al	109
Elastic medium, dislocations in	185
Electron microscope beams, nanoparticles in	275
Epitaxy, solid-phase, pressure-enhanced	303
Fe–Zr, amorphous, phase separation in	309
Finnis-Sinclair potentials for metallic alloys	217
GaAlAs and GaInAs microtwinning in	67
Ge, amorphous, pentagonal nucleus in	233
Ge–Se alloys, X-ray absorption of	165
$Ge_{0.5}Si_{0.5}$/Si strained-layer superlattices	79
Glassy Ge–Se alloys, metallic bonding in	165
Gold atom clusters, alloying of copper into	173
Growth twinning in an Al–T_2 alloy	197

PAGE

Heterostructures, III–V, strained 241

Icosahedral and b.c.c. phases in Ti–V–Si 39
InGaAs/GaAs, misfit dislocations in 23
Interstitial loops, climb rate of 133
Iron–Silicon, magnetic domain walls in 225

Magnetic domain walls in iron–silicon alloys 225
Metallic alloys, f.c.c., Finnis-Sinclair potentials 217
Metals, calculation of strength 267
Metastable Al–Ge, HOLZ transforms of 31

Nanocrystalline tungsten, EXAFS of 245
Nanoparticles in electron microscope beams 275
Ni_3Al, B doped, grain boundaries in 123
NiAl, growth of, on zinc-blende 249
Ni_3Fe, dislocation structure of 117
Nickel, effect of on stability of Al_3Nb 343
Nickel-based superalloy, shearing in 73

Photodoping in the Ag/Ag–S system. 97
Plasma exposed Si–SiO_2, stress in 15
Point defect diffusivity under high pressure 1
Polymeric solids, laser-induced ablation of 289
Pressure-enhanced solid-phase epitaxy 303

Quasicrystal of Al–Cu–Co, stability of 211
Quasicrystals of Al–Mn–Pd 87
Quasicrystals of an Al–Mn–Cr–Si alloy 179

Radiation damage in stainless steel 315

Shearing in a nickel-based superalloy 73
Si : H, amorphous, ambipolar diffusion length in 327
Si : H, amorphous, photoexcited carriers in 57
Silicon, amorphous, dispersive transport in 153
Sintered Al_2O_3, microstructure of 7
Si–SiO_2, mechanical stress in 15
Steel, stainless, radiation damage in 315
Strain determination in III–V heterostructures 241
Strength of metals, calculation of 267
Structure atomique du joint de macle $\Sigma 3(111)$ dans $Ni_3(Al, Nb)$ 205
Superconductors, high T_c, bipolarons in 295, 319
Superlattices, strained-layer, of $Ge_{0.5}Si_{0.5}/Si$ 79

Ti–V–Si, icosahedral and b.c.c. phase relationship 39
Ti_3Al, superlattice dislocations in 65
Tungsten, nanocrystalline, EXAFS of 245
Twin boundaries in tetragonal Bi–Mn films 127

Voids, dispersions of as sources of strength 159

Whiskers of SiC, annealing of 19

YBaCuO, novel dislocation in 189

Zinc-blende, growth of NiAl on 249
Zr_3Al, dissociation transition in 109

PHILOSOPHICAL MAGAZINE LETTERS, 1991, VOL. 63, NO. 6, 357–360

INDEX OF AUTHORS (WITH TITLES)

Vol. 63

PAGE

Agnihotri, A. K., *see* Shukla, R. K.
Alexandrov, A. S., and Ray, D. K.: Theory of high-T superconductors: back to small bipolarons 295
Alexandrova, S., *see* Christova, K.
Amelinckx, S., *see* Van Tendeloo, G.
Andersen, S., *see* Guo, Y. X.

Bangert, U., *see* Harvey, A. J.
Bangert, U., *see* Haswell, R.
Beeli, C., Nissen, H.-U., and Robadey, J.: Stable Al–Mn–Pd quasicrystals . . 87
Belov, A. Yu., *see* Gryaznov, V. G.
Bonnet, R., Derder, C., Loubradou, M., Catana, A., and Stadelmann, P. A.: Structure atomique du joint de macle $\Sigma 3(111)$ dans $Ni_3(Ai, Nb)$ 205
Bottiger, J., *see* Karpe, N.
Bouillet, C., *see* Lefebvre, A.

Catana, A., *see* Bonnet, R.
Chak, T. K.: Hydrostatic pressure-enhanced solid-phase epitaxy 303
Chaki, T. K.: Mechanism of boron-induced strengthening of grain boundaries in Ni_3Al 123
Chang, X., *see* Zhou, Y. C.
Charsley, P., *see* Harvey, A. J.
Charsley, P., *see* Haswell, R.
Chen, H., *see* He, Y.
Chen, H., *see* Inoue, H. R. P.
Chen, S. P., *see* Joo, G. C.
Cheng, Y. F., Hui, M. J., and Li, F. H.: A new commensurate phase and its related incommensurate phase in Al–Cu–Fe alloy 49
Christova, K., Szekeres, A., and Alexandrova, S.: Mechanical stress in plasma-exposed Si–SiO structures 15
Chu, Y. M., *see* Duan, X. F.
Courbon, J., Louchet, F., Ignat, M., Pelissier, J., and Debrenne, P.: Analysis of *in situ* shearing mechanism of γ' precipitates in a nickel-based superalloy at 1120 K . 73

Das, D., *see* Mukhopadhyay, G.
Daulton, T. L., and Kelton, K. F.: Decagonal approximate phases in Al–Co–Cu alloys 257
Debrenne, P., *see* Courbon, J.
Derder, C., *see* Bonnet, R.
Di Persio, J., *see* Lefebvre, A.
Douin, J.: A dissociation transition in Zr_3Al deformed at room temperature . . 109
Duan, X. F., Fung, K. K., Chu, Y. M., Sheng, C., and Zhou, G. L.: Convergent-beam electron diffraction study of $Ge_{0.5}Si_{0.5}/Si$ strained-layer superlattices grown by molecular beam epitaxy 79
Duesbery, M. S., *see* Louat, N. P.

Exelby, D. R., *see* Vincent, R.

Faux, D. A., *see* Harvey, A. J.
Fritzsche, H., *see* Johanson, R. E.
Fritzsche, H., *see* Yoon, B.-G.
Fujita, H., *see* Mori, H.
Fung, K. K., *see* Duan, X. F.

PAGE

Geng, X., *see* Yan, B.
Gleiter, H., *see* Haubold, T.
Goto, A., *see* Hondoh, T.
Gryaznov, V. G., Kaprelov, A. M., and Belov. A. Yu.: Real temperature of nanoparticles in electron microscope beams 275
Gumbsch, P., *see* Paxton, A. T.
Guo, Y. X., Andersen, S., and Høier, R.: Coherence between icosahedral quasicrystals and alumium in an Al–Mn–Cr–Si alloy 179

Harmer, M. P., *see* Junhond Zhao
Harvey, A. J., Faux, D. A., Bangert, U., and Charsley, P.: Strain determination in III–V compound heterostructure strained layers by comparison of experimental and simulated electron diffraction contrast in 90 wedges 241
Haswell, R., Bangert, U., and Charsley, P.: Microtwinning in Ga AlAs and GaInAs due to identation at room temperature 67
Haubold, T., Krauss, W., and Gleiter, H.: EXAFS studies on nanocrystalline tungsten 245
He, Y., Chen, H., Meng, X. F., Poon, S. J., and Shiflet, G. J.: Stability investigation of a decagonal Al–Cu–Co quasicrystal 211
Herbeaux, C., *see* Lefebvre, A.
Hiroaki Sanjoh, *see* Keiji Tanaka
Høier, R., *see* Guo, Y. X.
Hondoh, T., Hoshi, R., Goto, A., and Yamagami, H.: A new method using synchrotron-radiation topography for determining point-defect diffusivity under hydrostatic pressure 1
Hoshi, R., *see* Hondoh, T.
Hubin, J., *see* Sauvain, E.
Hui, M. J., *see* Cheng, Y. F.

Ignat, M., *see* Courbon, J.
Imam, M. S., *see* Louat, N. P.
Inoue, H. R. P., Kitamura, M., Wayman, C. M., and Chen, H.: Phase stability of Al_3Nb as a function of nickel additions 345

Janting, J., *see* Karpe, N.
Johanson, R. E., Kaneko, Y., and Fritzsche, H.: Travelling wave drift mobility measurements of photoexcited carriers in a-Si:H at low temperatures . . 57
Jones, H., *see* Warrington, D. H.
Joo, G. C., Tsakalakos, T., and Chen, S. P.: Modelling the growth of NiAl epilayer on zinc-blende substrate 249
Junhong Zhao and Harmer, M. P.: Sintering kinetics for a model final-stage microstructure: A study of AlO 7

Kagawa, Y., *see* Okabe, T.
Kalontarov, L. I.: Mechanism of laser-induced ablation of polymeric solids . . 289
Kaneko, Y., *see* Johanson, R. E.
Kaprelov, A. M., *see* Gryaznov, V. G.
Karpe, N., Bottiger, J., Janting, J., and Kyllesbech Larsen, K.: Evidence for phase separation in amorphous Fe–Zr from chemical diffusion 309
Keiji Tanaka and Hiroaki Sanjoh: Photodoping in the Ag/As–S system induced by pulsed light 97
Kelton, K. F., *see* Daulton, T. L.
Kelton, K. F., *see* Zhang, X.
Kirchner, H. O. K., The self-force of a dislocation in an inhomogeneous elastic medium 185
Kitamura, M., *see* Inoue, H. R. P.
Komatsu, M., *see* Mori, H.
Korner, A.: Mechanical properties and dislocation structure in $L1_2$ long-range ordered Ni_3Fe. 117

PAGE

Krauss, W., *see* Haubold, T.
Krekels, T., *see* Van Tendeloo, G.
Kumar, A., *see* Shukla, R. K.
Kyllesbech Larsen, K., *see* Karpe, N.

Lang, A. R., and Polcarova, M.: X-ray topographic observations of 180° magnetic domain walls in (001) plates of nearly perfect iron–silicon alloy single crystals . 225
Lefebvre, A., Herbeaux, C., Bouillet, C., and Di Persio, J.: A new type of misfit dislocation multiplication process in $In_xGa_{1-x}As/GaAs$ strained-layer superlattices 23
Li, F. H., *see* Cheng, Y. F.
Li, Y., *see* Warrington, D. H.
Liu, J., *see* Yan, B.
Louat, N. P., Duesbery, M. S., Imam, M. A., Provenzano, V., and Sadananda, K.: On dispersions of voids as sources of strength 159
Loubradou, M., *see* Bonnet, R.
Louchet, F., *see* Courbon, J.
Luzzi, D. E.: Direct imaging of ordered segregation layers in copper doped with bismuth 281

Majumdar, C. K., *see* Mukhopadhyay, G.
Meng, X. F., *see* He, Y.
Methfessel, M., *see* Paxton, A. T.
Mori, H., Komatsu, M., Takeda, K., and Fujita, H.: Spontaneous alloying of copper into gold atom clusters 173
Mott, N. F.: The bipolaron theory of high-temperature superconductors and its relation to the properties of superfluid ^4He 319
Mukhopadhyay, G., Das, D., Majumdar, C. K., and Rao, K. R. P. M.: Study of radiation damage in stainless steel SS 302 by conversion electron Mossbauer spectroscopy 315

Nigam, A. N., *see* Shukla, R. K.
Nissen, H.-U., *see* Beeli, C.

Okabe, T., Kagawa, Y., and Takai, S.: High resolution electron microscopic observation on a pentagonal nucleus formed in amorphous germanium films . 233
Oliver, J., and Veyssiere, P.: Radiation-induced helical dislocations in Co_3Ti . . 141

Paxton, A. T., Gumbsch, P., and Methfessel, M.: A quantum mechanical calculation of the theoretical strength of metals 267
Pelissier, J., *see* Courbon, J.
Pipoz, P., *see* Sauvain, E.
Polcarova, M., *see* Lang, A. R.
Poon, S. J., *see* He, Y.
Provenzano, V., *see* Louat, N. P.

Rafii-Tabar, H., and Sutton, A. P.: Long-range Finnis-Sinclair potentials for f.c.c. metallic alloys 217
Rao, K. R. P. M., *see* Mukhopadhyay, G.
Ray, D. K., *see* Alexandrov, A. S.
Robadey, J., *see* Beeli, C.
Ryba, E. R., *see* Song, S.

Sadananda, K., *see* Louat, N. P.
Saka, H., and Teshima, H.: HVEM *in situ* observation of effects of an external compressive stress on the climb rate of interstitial loops 133

PAGE

Sauvain, E., Hubin, J., Shah, A., and Pipoz, P.: Effect of the dangling-bond charge on the ambipolar diffusion length in a-Si:H 327
Seng, C., *see* Duan, X. F.
Shah, A., *see* Sauvain, E.
Shi, K., *see* Yan, B.
Shih, C. H., *see* Zhou, Y. C.
Shukla, R. K., Swarup, S., Agnihotri, A. K., Nigram, A. N., and Kumar, A.: X-ray K-absorption studies of glassy $Ge_{22}Se_{63}M_{10}$(M = Ag, Cd, In, Pb) 165
Song, S., Wang, L., and Ryba, E. R.: Twinning in the structure of the 'decagonal' phase $Al_{65}Cu_{20}Co_{15}$ 335
Stadelmann, P. A., *see* Bonnet, R.
Sun, Z., *see* Yan, B.
Sutton, A. P., *see* Rafii-Tabar, H.
Swarup, S., *see* Shukla, R. K.
Szekers, A., *see* Christova, K.

Takai, S., *see* Okabe, T.
Takeda, K., *see* Mori, H.
Taniguchi, Y., *see* Yoshida, K.
Teshima, H., *see* Saka, H.
Tsakalakos, T., *see* Joo, G. C.

Van Tendeloo, G., Krekels, T., and Amelinckx, S.: A novel type of dislocation in $YBa_2Cu_{3+x}O_{7+x}$ 185
Veyssiere, P., *see* Teshima, H.
Vincent, R., and Exelby, D. R.: Structure of metastable Al–Ge phases determined from HOLZ Patterson transforms 31

Wang, L., *see* Song, S.
Warrington, D. H., Li, Y., and Jones, H.: Evidence for growth twinning within eutectic T_2 phase in chill-cast αAl–T eutectic alloy 197
Wayman, C. M., *see* Inoue, H. R. P.

Xia, F., *see* Zhou, Y. C.
Xu, W., *see* Yan, B.

Yamagami, H., *see* Hondoh, T.
Yan, B., Shi, L., Liu, J., Geng, X., Sun, Z., and Xu, W.: Theoretical investigation of transient space-charge-limited current for dispersive transport in amorphous silicon 153
Yoon, B.-G., and Fritzsche, H.: Doping dependence of the low-temperature photoconductivity in hydrogenated amorphous silicon 101
Yoshida, K., and Taniguchi, Y.: Disordered twin boundary regions in long-period tetragonal Bi–Mn films 127

Zhang, X., and Kelton, K. F.: Orientational relationship between a b.c.c. phase and a new icosahedral phase in Ti–V–Si alloys 39
Zhou, G. L., *see* Duan, X. F.
Zhou, J., *see* Zhou, Y. C.
Zhou, Y. C., Chang, X., Zhou, J., Xia, F., and Shih, C. H.: Microstructure change in SiC whiskers after high-temperature annealing 19